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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FREEMAN, JOHN D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,610	Applicant(s) SPAANS ET AL.	
	Examiner John Freeman	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: although Applicant amended the claim to remove the term "approximately," an instance of the term remains in the third line of the claim. The examiner suggests Applicant amends the claim to change "approximately" to "about" as in the previous instance.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 4, 6, 8-15, 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Asai et al. (5,780,158).

3. Asai et al. disclose a triply layered metal substrate (col 9 ln 56-59). The first layer (A) comprises ethylene terephthalate (col 2 ln 22), the second layer (B) comprises a mixture of polycarbonate (col 2 ln 25) and polyethylene and butylene terephthalate (col 2 ln 46+), and the third layer can be the same as the first layer (col 9 ln 63-65). This reads on Applicants' claims 1.

4. Table 1 (col 13) lists examples and weight percentages of polymers used therein. Example 1 contains 78% by weight polyester of which 40% by weight is PBT. This implies a 31% by weight PBT in terms of the entire (B) layer ($40\% \times 78\% = 31\%$). This reads on Applicants' claims 4, 6 and 18-20. Although Examples 1-8 are two-layered structures, Examples 35-43 use the same compositions to create the first two layers and then combine them with a third layer (col 20).

5. Furthermore, the glass transition temperature of (A) is 73°C. This reads on Applicants' claim 7. The (A) layer of Example 9 as having a melting point of 255°C (Table 3, col 15). Such temperatures are interpreted to be "sufficiently high" (claim 2) enough to avoid tacking, as they anticipate the ranges of claim 8.

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6. Asai et al. disclose information regarding claims 9, 10 and 21-23. The thicknesses of individual layers of a triply layered product are as follows: the first layer (A) is 3 μ m, the second (B) is 24 μ m, and the third is 3 μ m (col 20 ln 36-39). In total the lamination is then 30 μ m.

7. Regarding claims 11-15: Asai et al. teach the use of the laminated metal sheet as a container. The sheet can be formed by extrusion (col 1 ln 13). Appropriate metals include tin-plated steel, tin-free steel and aluminum (col 10 ln 5-9). Containers made from the invention may be used for beverage cans (col 1 ln 14). Since Asai et al. are able to make a container from the sheet, it is implied the invention does not stick to the forming tools in a manner that impacts the production process.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al. (5,780,158) as applied to claim 1 above.

10. Applicants claim a PET:PBT ratio of 1:1 for the barrier layer. Applicants also claim a method for making wherein the three layers are formed into a film, which is then applied to metal substrate. The metal substrate may also already contain the inner layer.

11. Asai et al. teach a triply layered metal substrate as described previously in this Office Action. They are silent, however, with regard to the method of making.

12. The claimed process of applying a film to a substrate is well known to one of ordinary skill in the art. Furthermore, Asai et al. disclose that their invention has "good film forming properties (such as extrusion moldability and drawability)" (col 1 ln 12-13), providing motivation to one of ordinary skill to attempt to use the claimed process.). Merely applying one layer onto a substrate before other layers of a

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multilayer structure was a well-known process at the time of the invention. At the time of the invention, it would have been an obvious variation to one of ordinary skill in the art to apply the PET layer before the other layers to, for example, ensure the heat involved does not adversely affect the other layers.

13. Claims 1, 3-4, and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (US 5,618,621).

14. Hasegawa et al. (hereafter Hasegawa) disclose a laminated polyester film bonded to a metal sheet (col 1 ln 11-13). The film comprises two layers, (A) and (B) (col 3 ln 15-29):

- (A) comprises a polyester having ethylene terephthalate as the main unit
- (B) comprises a polyester having:
 - 60-99% by weight of (B1) an ethylene terephthalate unit, and
 - 1-40% by weight of (B2) a butylene terephthalate unit.

Hasegawa bonds layer (B) to the metal surface (col 3 ln 30-32). Layer (A) has a glass transition temperature of 70°C or higher (col 4 ln 8-11).

15. Hasegawa is silent with regard to a film having a third layer.

16. At the time of the invention, it would have been obvious to one of ordinary skill in the art to duplicate layer (B) to impart greater heat resistance and flavor retention properties to the film (col 6 ln 33-41).

17. The following table describes the relation between Applicant's and Hasegawa's layers:

Hasegawa	Applicant
Layer (A)	Outer Layer
(B')	Barrier
(B)	Inner

(B') denotes the duplicate layer (B).

18. Regarding claim 3:

19. Layer (B') comprises copolymers of PET and PBT.

20. Regarding claim 4, 6, and 18-20:

21. Layer (B') contains up to 40% of butylene units, which is less than 60%.

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22. The range described in claim 6 of the instant application overlaps with that described by Hasegawa. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

23. Regarding claim 8:

24. Hasegawa discloses polyesters having melting points in the range of 210°-245°C (col 4 ln 1-2). . As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

25. Regarding claims 9-10, and 21-23:

26. Hasegawa discloses the total thickness of the film to preferably be 15-50µm (col 6 ln 12-14). Hasegawa discloses ratios of layer (A) (first layer) to layer (B) (second layer) in the range of 0.02-0.8 to 1. This ratio provides for barrier layers overlapping in thickness with the ranges claimed by Applicant. For example, with an overall thickness of 50µm and a ratio of 0.8 to 1, layer (B) would have a thickness of 28µm. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

27. Regarding claim 11-14:

28. Hasegawa discloses cans made from steel having the polyester film (col 10 ln 24-34). Hasegawa directs the invention toward many metal-sheet materials including tinplate (col 1 ln 28-32).

29. Regarding claim 15-17:

30. The film can be coextruded (col 6 ln 27) and bonded to a metal sheet (col 6 ln 42-44). Merely applying one layer onto a substrate before other layers of a multilayer structure was a well-known process at the time of the invention. At the time of the invention, it would have been obvious to one of ordinary skill in the art to apply layer (B) before layers (A) and (B') to, for example, ensure the heat involved does not affect the bond between (A) and (B').

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31. Claims 1-2, and 4-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majima et al. (US 6,780,482) in view of Hasegawa et al. (US 5,618,621).

32. Majima et al. (hereafter Majima) disclose metal sheets having a polyester film thereon (col 1 ln 8-10). The film comprises a blend of PBT and PET (col 4 ln 16-28). A polyester-based adhesive may attach the film to the metal sheet (col 11 ln 51-55). Further layers may be provided on the surface of the film (col 11 ln 56-60).

33. Majima is silent with regard to an adhesive layer comprising PET and an outer layer comprising PET having a glass transition temperature of greater than 70°C and thickness of barrier layer.

34. At the time of the invention, it would have been obvious to one of ordinary skill in the art to make an adhesive layer out of PET to ensure the film adequately bonds with the adhesive layer since like-materials readily bond.

35. Hasegawa teaches a PET outer layer having a glass transition temperature higher than 70°C to maintain flavor retention (col 4 ln 8-11).

36. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use such an outer layer in conjunction with Majima's film to increase the flavor retention of the film.

37. Regarding claim 4-6, 18-20:

38. Majima teaches a PBT concentration of 20-60% by weight (col 4 ln 25). These values overlap with those ranges described by Applicant. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

39. Regarding claim 8:

40. Hasegawa discloses polyesters having melting points in the range of 210°-245°C (col 4 ln 1-2). As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

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41. Regarding claims 9-10, 21-23:

42. Majima discloses examples of films 25µm in total thickness (col 16 ln 56). Given that Hasegawa describes barrier layers greater than 15µm in thickness, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use barrier layers of such thickness to, for example, improve the flavor retention properties of the barrier.

43. Regarding claims 11-14:

44. Majima makes a container from the metal sheet (col 1 ln 10-15). Many types of metal are suitable, including steel treated with electrolytic chromium (col 11 ln 38-45).

45. Regarding claims 15-17:

46. Majima discloses extruding the film (col 16 ln 41-46). Merely applying one layer onto a substrate before other layers of a multilayer structure was a well-known process at the time of the invention. At the time of the invention, it would have been an obvious variation to one of ordinary skill in the art to apply the adhesive layer before the other layers to, for example, ensure the heat involved does not adversely affect the other layers.

Response to Arguments

47. Applicant's arguments filed 17 January 2008 have been fully considered but they are not persuasive. While it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. the polycarbonate of Asai, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant's invention, See MPEP 2111.03.

48. Therefore, the examiner maintains the rejections over Asai ('158) under 35 USC §102(b) and 103(a).

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49. The rejection of claim 1 under 35 USC §102(b) over Hasegawa ('354) has been withdrawn in light of Applicant's amendment.

50. The examiner has also cited Hasegawa ('621) and Majima ('482) in light of Applicant's amendment.

51. The amendment to the claims renders the rejections under 35 USC §112, second paragraph moot. Also the examiner has considered Applicant's citation of case law concerning the term "about" in claims 4 and 6, and has found it to be persuasive.

Conclusion

52. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hasegawa ('689), Maita ('654), Komai ('278), and Itoh ('442) all disclose laminates containing PET and PBT.

53. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman
Examiner
Art Unit 1794

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